

MODEL FH-31

Rockwell and Brinell Hardness Testing Machine



Model FH-31

6.5in full-color industrial LCD touchscreen for easy tester operation, (operation also achieved by included wireless mouse and keyboard)

Adjustable specimen lighting

Attachment for adjustable clamping of test pieces and indenter protection

Precision spindle allows large test pieces to be tested

Load cell-based, closed loop force feedback system with automatic load setting

Connectivity – USB (3x), RJ45-LAN, WLAN (optional), WiFi onboard (optional), Bluetooth (optional)

The FH-31 Series is a new generation of hardness testing instruments. The main body is a precision cast rigid structure and incorporates a load cell-based, closed loop force loading actuator to provide precise, adjustable loading on the indenters.

The load application system avoids 'overshoot' during the test and guarantees one of the best GR & R results ever seen on Rockwell/Brinell hardness testers in this class.

The tester meets or exceeds the ISO, ASTM and JIS standards. (ISO 6508, ISO 2039/1, ASTM E18, ASTM B254, JIS Z2245).

Test forces range from 2.5-187.5kgf, which means that even this basic model is equipped with Rockwell, Superficial Rockwell and Brinell load settings (model dependent).

System control is managed by a 6.5 inch industrial touchscreen running our Horizon firmware, but a mouse and keyboard can also be used. The touchscreen will also display results and statistics.

Features and benefits

- Load cell, force feedback, closed loop system.
- MS Windows embedded operating system.
- Unmatched GR & R results in its class.
- Load range 2.5kgf/24.5N up to 187.5kgf/1838N (depending on model).
- Fully automatic operation.
- Meets or exceeds ISO, ASTM and JIS standards.
- Shape correction settings for curved surfaces.
- Go/No Go function with visual and acoustic warning.
- Large memory for measurements with statistical results.
- Easy calibration function.
- Testing program storage.
- Testing value storage.
- Standard workpiece clamping attachment.
- USB-2 (3x), converter to RS-232, LAN RJ45, WLAN (optional), Wi-Fi onboard (optional), Bluetooth (optional) outputs.
- Wireless mouse and keyboard
- External Brinell microscope (FH-31-1)
- Large workpiece accommodation.

MODEL DETAILS

- **FH-031-0000** 2.5-150 kgf Rockwell, Superficial Rockwell
- **FH-031-0001** 2.5-187.5 kgf Rockwell, Superficial Rockwell, Brinell

STANDARD ACCESSORIES

- Brinell microscope (FH-30-1)
- Power cable
- Four adjustable feet
- Certificate
- Installation and user manual
- Wireless mouse & keyboard

Wide range
of certified test
blocks available



Specifications



FH-31 SPECIFICATIONS	
Hardness scales FH-31-0	Rockwell and Superficial Rockwell all scales*
Hardness scales FH-31-1	Rockwell, Superficial Rockwell and Brinell scales (2.5kgf/24.5N to 187.5kgf/1838N)*
Load application	Load cell, force feedback, closed loop system
Rockwell Pre-load	3kgf and 10kgf
Rockwell Main load	15kgf, 30kgf, 45kgf, 60kgf, 100kgf, 150kgf
Rockwell test scales available	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V
Superficial Rockwell scales available	15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y
Brinell test load (model FH-30-1)	2.5kgf/24.5N to 187.5kgf/1838N
Brinell test scales (model FH-30-1) available	HB1: 2.5kgf/24.5N, 5kgf/49N, 10kgf/98N, 30kgf/295N HB 2.5: 6.25kgf/61.29N, 15.625kgf/153.2N, 31.25kgf/306.45N, 62.5kgf/612N, 187.5kgf/1838N HB5: 25kgf/245.16N, 62.5kgf/612N, 125kgf/1225N HB10: 100kgf/980.7N
Display	6.5in full color industrial touchscreen, testing results, statistics. Can also be operated by mouse and keyboard
Display overview	Conversion to other hardness scales such as Brinell, Vickers, Leeb, UTM. Convex, concave adjustment, machine settings, calibration
Standards	Meets or exceeds, ISO, ASTM, JIS standards
Test cycles	Motorized, fully automatic, Pre-load, Load, Dwell, Unload process
Indenters (optional)	Rockwell Diamond cone: 120° Rockwell balls: 1/16in, 1/8in, 1/4in, 1/2in Brinell balls: 1mm, 2.5mm, 5mm, 10mm
Dwell time	Pre-load 1-99 seconds, Main load 1-99 seconds, Recovery 1-99 seconds
Connectivity	USB-2 (3x), converter to RS-232, LAN RJ45, WLAN (optional), WiFi onboard (optional), Bluetooth (optional)
Optical system FH-31-1	Brinell microscope
Workpiece accommodation	Vertical capacity 250mm Horizontal capacity 175mm (from indenter center-line)
Machine dimensions	250 x 505 x 745mm (WxDxH)
Operating temperature range	10-35°C (50-95°F) non-condensing
Weight	82kg (181lb)
Power supply	100V AC to 240V AC, 50Hz/60Hz, single phase
*Calibration of scales is required prior to use. Please specify desired scales at the time of ordering.	

Solid tester tables with storage cabinets available



STAGE/ANVIL	
FH-050-0266	60mm Flat Anvil
FH-050-0117	Testing table flat 80mm (all models)
FH-050-0041	Pedestal spot anvil 5mm
FH-050-0037	10mm Spot Anvil
FH-050-0040	V-anvil dia.40mm for 6-200mm
FH-050-0326	V-anvil ø63mm 10-100mm
FH-050-0025	80mm V-anvil for 3.3-20mm
FH-050-0026	80mm V-anvil for 12-80mm
FH-050-0027	80mm V-anvil for 20-140mm
FH-050-0235	Anvil ball Type Specimen Dia 6-25.4mm
FH-050-0324	Cylindrical V anvil 6-80mm
FH-050-0325	Cylindrical V anvil 50-200mm
FH-050-0029	Test Table 100x100mm, V-Grove 20mm wide, 10mm deep
FH-001-0006	Testing Table Flat 180mm for FH-1/2 Series
FH-002-0034	Testing table flat 235 MM, Screwfix

INDENTERS	
FH-300-0001	Rockwell Diamond; HRC, HRA, &HRD Scales - ASTM
FH-300-0002	Rockwell Diamond; HR15N, HR30N, HR45N Scales - ASTM
FH-300-0003	Rockwell Diamond; HRC, HRA, HRD, HR15N, HR30N, &HR45N - ASTM
FH-300-0004	Rockwell Diamond (17mm); HRC, HRA, HRD, HR15N, HR30N, &HR45N - ISO
FH-300-0005	Rockwell Diamond(17mm); HRC, HRA, HRD, HR15N, HR30N, & HR45N - ISO & ASTM Cert
FH-300-0020	1/16 Rockwell Carbide Ball Penetrator - ASTM
FH-300-0021	1/16 Rockwell Carbide Ball Penetrator - ISO
FH-300-0022	1/16 Rockwell Carbide Ball Penetrator - ISO & ASTM Cert
FH-300-0023	1/8 Rockwell Carbide Ball Penetrator - ASTM
FH-300-0024	1/8 Rockwell Carbide Ball Penetrator - ISO
FH-300-0025	1/8 Rockwell Carbide Ball Penetrator - ISO & ASTM Cert
FH-200-0039	Rockwell indenter 1/4" Carbide ball, shaft dia 6.35 L 29mm; ISO 17025 Accredited
FH-200-0040	Rockwell indenter 1/2" Carbide ball, shaft dia 6.35 L 29mm; ISO 17025 Accredited
FH-200-0041	Rockwell spare carbide ball 1/16". ISO 17025 Accredited
FH-200-0042	Rockwell spare carbide ball 1/8" . ISO 17025 Accredited
FH-200-0043	Rockwell spare carbide ball 1/4" . ISO 17025 Accredited
FH-200-0044	Rockwell spare carbide ball 1/2" . ISO 17025 Accredited

CABINET/TABLE	
FH-095-1008	Cabinet/table for bench machines 710 x 750 x 800 mm. (Grey/Black top)
FH-009-1009	Cabinet/table for bench machines 1500 x 750 x 800 mm. (Grey/Black top)